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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,903	07/14/2003	Richard A. Kelley	10019589-2	6836

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EXAMINER	
STEWART JR, CHARLES W	

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/618,903	KELLEY ET AL.	
	Examiner	Art Unit	
	Charles W. Stewart, Jr.	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-37 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-37 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine ground in public policy (a policy reflected in the statue) so as to prevent the unjustified or improper timewise extension of the "right to exclude' granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 f.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 428, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321 (May be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-37 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 6, 666,537 B1.

In claim 1, with respect to claim 1, Kelly et al. discloses a print system, including a host communicating with an inkjet print apparatus, wherein the host comprises a processor which executes an inkjet print driver, the inkjet print driver managing communication of a print job to

the inkjet print apparatus, the print job including print data and at least one print control parameter, the inkjet print apparatus comprising a controller, an inkjet print source which records the print data onto a media, and a mechanism which adjusts source-to-media spacing, wherein the controller responds to a first parameter of said at least one print control parameter to control setting of the source-to-media spacing by said adjusting mechanism for the print job.

In claim 2, with respect to claim 2, wherein said first parameter indicates a media type for the print job, and wherein the controller identifies the source-to-media spacing corresponding to said media type.

In claim 3, with respect to claim 3, wherein said inkjet print driver receives an indication of media type and identifies the source-to-media spacing corresponding to said media type, the controller receiving said source-to-media spacing as said first parameter.

In claim 4, with respect to claim 8, wherein the adjusting mechanism comprises a cam having a plurality of discrete positions, each one position corresponding to a unique source-to-media spacing.

In claim 5, with respect to claim 4, wherein the inkjet print apparatus further comprises a carriage which carries the inkjet print source and at least a portion of the adjusting mechanism, the carriage moving along a guide, wherein the adjusting mechanism further comprises an axle and an engagement surface along the axle, the cam being mounted to the axle, the axle rotating the cam and being carried by the carriage, wherein the guide includes a pin which engages the engagement surface, a relative motion of the pin and engagement surface causing the axle to rotate in a first direction altering position of the cam.

In claim 6, with respect to claim 4, wherein the engagement surface is a first engagement

surface and the pin is a first pin, the adjusting mechanism further comprising a second engagement surface, the guide further comprising a second pin, wherein a relative motion of the second pin and second engagement surface causes the axle to rotate in a second direction altering position of the cam.

In claim 7, with respect to claim 5, wherein said relative motion comprises altering a height of the pin while the engagement surface contacts the pin.

In claim 8, with respect to claim 6, wherein said relative motion comprises moving the engagement over the pin as the carriage moves to the pin.

In claim 9, with respect to claim 7, wherein there is a cam position for at least three select source-to-media spacings, including a first source-to-media spacing for a media type comprising non-cockling media, a second source-to-media spacing for a media type comprising cockling media, and a third source-to-media spacing for a media type comprising envelope media.

In claim 10, with respect to claim 8, wherein the adjusting mechanism comprises a cam and a motor, the cam having a plurality of positions with respective, associated source-to-media spacings, the controller outputting a signal to the motor to adjust the source-to-media spacing.

In claim 11, with respect to claim 9, which maintains the source-to-media spacing during the print job, wherein the inkjet print apparatus further comprises a sensor which senses a surface of the media within a vicinity of a print zone, the controller responding to the sensed surface to maintain the source-to-media spacing as the carriage slews the inkjet print source across the media surface.

In claim 12, with respect to claim 10, wherein said controller adjusts the adjusting mechanism multiple times during a single slew of the carriage across the media to maintain the

source-to-media spacing generally constant with changes in contour of the media surface.

In claim 13, with respect to claim 11, a sensor which senses a media surface within a vicinity of a print zone; an inkjet print source which ejects ink onto the media surface within the print zone; and a controller which adjusts the inkjet print source relative to the media to control source-to-media spacing as a function of the sensed media surface.

In claim 14, with respect to claim 12, a carriage which carries the inkjet print source across the media surface, wherein said sensor senses the media surface and the controller adjusts the inkjet print source relative to the media to control source-to-media spacing as the carriage slews the inkjet print source across the media surface.

In claim 15, with respect to claim 13, wherein the sensor moves with the carriage.

In claim 16, with respect to claim 14, wherein said controller varies the inkjet print source relative to the media multiple times during a single slew of the carriage across the media to maintain the source-to-media spacing.

In claim 17, with respect to claim 15, wherein said controller adjusts a height spacing of the inkjet print source relative to a support carrying the media.

In claim 18, with respect to claim 16, means for calibrating the sensor.

In claim 19, with respect to claim 17, wherein the calibrating means comprises the sensor and a target, wherein the target is not part of the media and is biased into contact with the media surface, at a first time the sensor sensing the target and at a second time the sensor sensing the media surface, and wherein a calibration parameter is derived from a comparison of the sensed target and the calibration-sensed media surface.

In claim 20, wherein the sensor is a first operational sensor, and further comprising: a first

calibration sensor, a second calibration sensor and a target, wherein the target is not part of the media and is biased into contact with the media surface, wherein the first calibration sensor senses the target, the second calibration sensor senses the media surface, and wherein a calibration parameter is derived from a comparison of the sensed target and the calibration-sensed media surface.

In claim 21, with respect to claim 19, wherein the second calibration sensor is comprised by the first operational sensor.

In claim 22, with respect to claim 20, wherein the first calibration sensor and the second calibration sensor are comprised of the first operational sensor.

In claim 23, with respect to claim 21, a cam and a motor, the motor for rotating the cam, the cam mechanically coupled to the inkjet print source, the motor responsive to the controller by altering a height of the inkjet print source relative to a support carrying the media.

In claim 24, with respect to claim 22, sensing a media surface within a vicinity of a print zone; adjusting the inkjet print source relative to the media to control source-to-media spacing as a function of the sensed media surface; and ejecting ink with an inkjet print source onto the media surface.

In claim 25, with respect to claim 23, slewing a carriage across a media, the carriage carrying the inkjet print source, wherein said sensing, adjusting and ejecting occur during said slewing.

In claim 26, with respect to claim 24, wherein said sensing comprises sensing with a media sensor which moves with the carriage.

In claim 27, with respect to claim 25, wherein said adjusting comprises varying a height

of the inkjet print source relative to a support carrying the media multiple times during a single slew of the carriage across the media to maintain the source-to-media spacing.

In claim 28, with respect to claim 22, wherein said sensing is performed by a sensor, and further comprising: calibrating the sensor to account for variations in sensed media surface according to media type.

In claim 29, with respect to claim 26, wherein said sensor is a first operational sensor, and wherein said calibrating comprises: sensing a target which is not part of the media with a first calibration sensor, the target being biased into contact with the media surface; sensing the media surface with a second calibration sensor; and comparing the sensed target with the sensed media surface to derive a calibration parameter.

In claim 30, with respect to claim 27, wherein said calibrating comprises: sensing a target which is not part of the media with the sensor, the target being biased into contact with the media surface; sensing the media surface with the sensor; and comparing the sensed target with the sensed media surface to derive a calibration parameter.

In claim 31, with respect to claim 27, wherein said sensor is a first sensor, and wherein said calibrating comprises: sensing a target which is not part of the media with a second sensor, the target being biased into contact with the media surface; sensing the media surface with the first sensor; and comparing the sensed target with the sensed media surface to derive a calibration parameter.

In claim 32, with respect to claim 28, means for sensing a media surface within a vicinity of a print zone; means for maintaining a source-to-media spacing generally constant in presence of changes in the sensed media surface; and inkjet means for ejecting ink onto the media surface

within the print zone, wherein the source-to-media spacing is a nearest distance between the ejecting means and the media surface.

In claim 33, with respect to claim 29, wherein the maintaining means comprises: means for adjusting a height of the inkjet print source relative to a support carrying the media.

In claim 34, with respect to claims 30 and 31, means for carrying the ejecting means across the media surface, wherein said sensing means senses the media surface and the maintaining means adjusts height of the inkjet print source relative to a support carrying the media to maintain the source-to-media spacing as the carriage slews across the media surface.

In claim 35, with respect to claim 32, wherein the sensing means moves with the carrying means.

In claim 36, with respect to claim 34, wherein said adjusting means varies the height of the inkjet print source relative to a support carrying the media multiple times during a single slew of the carriage across the media to maintain the source-to-media spacing.

In claim 37, with respect to claim 33, means for calibrating the sensor to account for variations in sensed media surface according to media type.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to record the print data onto a media, and a mechanism which adjusts source-to-media spacing based on the sensed media type in order to achieve a better printing operation.

Contact Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles W. Stewart, Jr. whose telephone number is (571) 272-2154.

Charles Stewart, Jr.

September 9, 2004

Stephen D. Meier
Primary Examiner